



THE COMMONWEALTH OF MASSACHUSETTS  
WATER RESOURCES COMMISSION

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**Meeting Minutes for November 8, 2001**

**Members in Attendance:**

Mark P. Smith	Designee, EOE
Marilyn Contreas	Designee, DHCD
Mike Gildesgame	Designee, DEM
Glenn Haas	Designee, DEP
Mark Tisa	Designee, DFWLE
Joe McGinn	Designee, MDC
Richard Butler	Public Member
Gary Clayton	Public Member
David Rich	Public Member
Frank Veale	Public Member

**Others in Attendance:**

Linda Marler	DEM
Michele Drury	DEM
Lorraine Downey	MWRA
Vicki Gartland	DEM
Edward Nazaretian	CDM
Alan Berg	Town of Holden
Andrew Miller	CDM
Stephen Karol	The Karol Group
Ron Sharpin	MDC
Tom Mahlstedt	DEM
Jessica Stephens	Neponset River Watershed Association
Martha Stevenson	League of Women Voters
Pine DuBois	JRWA
Francis G. Lewis	Town of Rockport
Karl Pastore	EOEA

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**Agenda Item #1: Executive Director's Report**

- Smith introduced Tom Mahlstadt from DEM's Office of Historic Resources. He is here as part of DEM's job shadow program, shadowing Drury in order to learn more about DEM's Office of Water Resources.
- DEP's latest In The Main newsletter has an article about the end of the transition period for the IBT performance standards. We are sending articles to NEWWA and MWRA for publication in their newsletters as well.

- Secretary Durand and Commissioner Webber announced the award of grants for six lake and pond demonstration projects, given to the towns of Arlington, Amesbury, Littleton, Westfield, Lakeville (partial award) and Otis. These grants are to implement comprehensive techniques to protect and restore lakes and ponds. There are a wide range of projects from in-lake management to watershed management to public education.
- NEWWA held a meeting on water demand. Supply and demand are still hot topics.
- NEWWA, EPA, and DEP are holding a series of workshops on water security.
- There was an interesting presentation at EPA by Piotr Parasiewicz from Cornell on protecting target fish and streamflows. This relates to work we have funded. We will be trying to do a series of presentations on our work for the WRC.
- This week DEP published its SRF draft. This is the first cut on projects to be funded under this program.

Marler provided an update on the hydrologic conditions:

- Last month did not improve the hydrologic conditions. October rainfall was quite low: 34% of normal statewide and 25% of normal in the Connecticut Valley. This follows September, which had about 75% of normal rainfall. Conditions are getting progressively worse. The Weather Service is not projecting much rain in the next 14 days, so November's rainfall is not going to be too good either.
- Ground water levels in October were below normal throughout most of the state. Streamflow was even worse: below normal through all of the state. This is in the lowest 25<sup>th</sup> percent of record for the month of October. Flows for November 7<sup>th</sup> were down to about 50% of normal for this time of year.
- Some indices in drought plan that trigger a drought advisory have been met, others have not. The plan calls for two months of below normal streamflow and ground water levels. These have not been tripped yet in most regions of the state. We are approaching some of these levels in some regions, most notably in the Central region. A drought advisory might be triggered on Cape Cod due to ground water levels and lack of rain.
- We are also having fire problems because of dry conditions and leaf litter. Fire danger levels are going up to high. Forest Fire Protection reported two big fires: 150 acres and 300 acres in Erving, South Hadley and Hadley. Five helicopters were deployed to fight these fires. Conditions are bad and it looks like they are not going to improve for a couple of weeks.
- The National Drought Mitigation Center depicts Massachusetts in a drought watch. We haven't tripped into higher drought levels by any indices. The National Weather Service has issued a water resources statement for Massachusetts, but they still have us in drought watch. Northern New England is in the extreme drought zone, and we are starting to have the same sort of conditions as Northern New England. The Weather Service said we are in an "emerging drought". We need to start being on guard. We will start sending the Current Conditions report to the Drought Management Task Force to give them a heads up. If November turns out the way the predictions are running we will hold a meeting of the Drought Management Task Force next month and it is likely that a drought advisory will be issued for some regions.
- Some water suppliers have issued outdoor water conservation notices. This doesn't make a big difference this time of year. In particular, Lynn is at 56% of capacity. They have activated their drought plans. Lynn is able to meet demand, but they are lower than they

want to be at this time of year. Worcester has also activated its drought plan. They are at 66% of capacity. They have implemented outdoor water restrictions as well.

- The Palmer Drought Index shows us as being near normal. This seems contradictory, but the PDI considers the last 9 months. We've had some wet months during this period.

**Agenda Item #2: Vote on the Minutes of September 14, 2000**

<b>V O T E</b>	Butler moved and Haas seconded a motion to accept the minutes of September 14, 2000.
	The vote was unanimous of those present, with one abstention.

**Agenda Item #3: Vote on the Interim Definition of Stressed Basins**

Gartland stated that this topic was brought to the WRC in August. The suggestion was to use quantity as the interim definition as we worked to complete the quality and habitat sections. We are seeing some great work from fisheries.

At the August meeting, the Commission requested that staff find out how agencies would use the stressed basins designation. We are still hearing back, so there is nothing final. This is one reason to delay the vote. Another thing staff heard were concerns about the Jones River showing up as a non-stressed river, when in fact some people believe that it is very stressed. It was decided to not classify this river at this time. There is a study going on in the Jones River, and staff think this will help make a better decision. Also the ground water and surface water divides in this region don't always coincide. There is probably a lot of ground water going into the subbasin that has not been accounted for. Staff will leave the Jones River in the report for the data it provides.

Smith suggested that the Commission postpone the vote. He also suggested that when the watershed team reports become available, they should be incorporated, where appropriate. He stated that we had received a couple requests to postpone the vote and that we should wait until we've heard from all the agencies. In addition, NEWWA distributed an older version of the report at its latest meeting and this has caused confusion. Although we are postponing the vote, Smith felt that it is important that we produce a final report, and stated that the vote should be taken next month.

Clayton said he'd like to hear how the agencies would use this report, but he shares the concern that it should be voted on next month. He suggested that we vote to revisit the report as more information becomes available

Rich asked if the definition and parameters had changed since our last discussion. Gartland replied that the rankings used streamflow data and another method that uses an inflow/outflow balance on a subbasin level. Staff suggested that this be used on a case by case basis. This is a refinement. Rich is concerned that we don't skew this. Methodologies should be the same for each region.

DuBois thanked WRC for postponing the vote. The Instream Flow group has a number of concerns that relate to trying to compare rivers. If a river is classified as low stress, DEP may not exact the same conditions in its permits within the “low stress” basin as it would in a basin with a medium or high stress classification. This is a problem, she said, because the streamflow information is limited and doesn’t reflect what’s going on in the rest of the river. The 303d lists are inadequate to judge quality stress. We shouldn’t keep using inadequate data. When will the next pieces of this be scheduled to be completed? Will there be a schedule for updating and revisions?

**Agenda Item #4: Presentation on Holden’s Request for a Determination of Applicability Under the Interbasin Transfer Act**

Smith acknowledged Al Berg, Steve Karol and Andy Miller who were representing Holden. Drury reminded the WRC about the discussion concerning how applicability under the Interbasin Transfer Act is determined. Staff receive many questions asking if a certain project triggers the Act. Usually it is a straight yes or no answer, but then there are a few others that are more complicated. We bring these to the Commission, after trying to resolve it by consulting the Act, regulations and legal staff. We look to the WRC for the final decision. This was a complicated case. Drury thanked Ron Washburn of DEM legal staff who was very helpful with guiding us on how to weigh the issues.

Holden is located in the Nashua River and Blackstone River basins. Prior to October 15, their water supply system consisted of four wellfields with a capacity of 1 mgd and Muschopauge Pond with a capacity of 1.4 mgd. Holden shares Muschopauge Pond with Rutland, subject to Rutland’s prior rights. Holden also has a connection with Worcester at Brattle Street, which had a capacity of 1 mgd, so the total water supply capacity, which is their “present rate of interbasin transfer”, prior to October 15 was 3.4 mgd. Muschopauge Pond is subject to the surface water treatment rule requiring it to filter its supply in order to be used for drinking water. This has proven to be prohibitively expensive, especially since Holden only has secondary rights. They have been working with DEP and are under an ACO to either filter Muschopauge Pond or find an alternative source. Holden has weighed its options and decided that the best option was to construct an additional transmission main from the City of Worcester. Under the terms of the ACO, they had to take Muschopauge off line by Oct 15<sup>th</sup>. In order to get water they need in the interim, they’ve increased the capacity of Brattle Street by 1.5 mgd, temporarily, until the new high service connection with Worcester is built.

Wastewater goes to Upper Blackstone Water Pollution Control Abatement Facility.

Theoretically, any water they use from their own sources, which are all in the Nashua River basin, will leave that basin. Worcester also has land area in Nashua and Blackstone basins and they have sources (in Holden) in both these basins. So any water purchased from Worcester is discounted by the amount that comes from the Blackstone basin, because it is returned to the Blackstone basin. The new connection to Worcester will have a capacity of 2.1 mgd. Holden’s original “ability to transfer water” was 3.4 mgd. Staff have looked at the amount of “safe yield” of each source, by basin. Nashua River basin sources contribute 66% of Worcester’s supply. So the amount of water subject to the Act is 2.1 mgd x 66%, which comes out to be 1.4 mgd.

This new system still includes all of Holden’s local sources, except for Muschopauge Pond, so once the new connection is constructed, the town’s rate of interbasin transfer remains 3.4 mgd.

But since they have increased the existing Brattle Street connection, they will have to decrease it in order to keep below their original rate of interbasin transfer, and, in order to equalize the pressure in the system, they will have to decrease the 1.5 mgd connection back to 1 mgd. In the interim, while the new connection is being constructed, they will use the Brattle Street connection at 1.5 mgd, but the rate of interbasin transfer will be less than 3.4 mgd. They have designed the system so it doesn't trigger the Act. If they change the design or put in a bigger pump, the Act will be triggered and they will need further review. In addition, if they reactivate Muschopauge Pond (except in a DEP declared emergency) the act will be triggered.

Clayton asked if this will be in a decision document. Drury replied that it is in the staff recommendation and will be in final decision. A vote will be requested in December.

**Agenda Item #5: Presentation on Rockport's Request for a Determination of Insignificance Under the Interbasin Transfer Act**

Drury acknowledged Francis Lewis from the town of Rockport and referred the WRC to the map in the Staff Recommendation. Rockport is under an ACO to address wastewater issues. The town is proposing to sewer the Long Beach area, which abuts the town of Gloucester. They have been working with DEP to find alternatives to address failing septic systems in this area. Some of the alternatives considered are: on-site septic systems, sewerage to the Rockport WWTP and others. The Long Beach area is a seasonal summer residential area owned by town but leased to members of the public. The area is only occupied from April 15 to October 15 and generates only a small amount of wastewater, 35,000 gpd. Staff is recommending that this is insignificant under the Act. DEP has concluded that the connection with Gloucester is the best alternative because the area is a barrier beach; therefore, septic systems are not an option. Also, because of the topography, sending wastewater from this area to the Rockport WWTP would be prohibitively expensive. Staff received comments from DEP NERO supporting this alternative. It is a very small amount of wastewater and only will be transferred for a short period of time each year. It will be a permanent transfer under the Act, but it does seem to be the best alternative to address contamination problems to the tidal resources from these systems.

Staff looked at the criteria for insignificance, and several were not applicable. This peninsula is surrounded by the ocean and Saratoga Creek, a tidal lagoon. Gartland stated that most of the ground water flows towards the ocean. The water they are sewerage out of the Long Beach area does not come from this subbasin but comes from Cape Pond, in another subbasin. It is a small amount of flow and because they are not really contributing flow to the rivers, it was impossible to evaluate this transfer in terms of the streamflow criteria. This area is highly influenced by the tides. The proponent did an inflow/outflow analysis. Since most of this water is imported anyway, overall there was really no impact.

Webber asked if these homes ever became year-round residences, would these flows still be considered insignificant under the Act. Drury answered that the wastewater flow would probably still be less than 1 mgd, but if they increased the flow amount over what staff looked at under this request, they would have to reapply for the increased amount so that staff could assess the cumulative impacts. Lewis said that the chance of these becoming year-round is not a possibility. The water lines and houses would have to be insulated. The agreement with Gloucester is just for the summer months, as is the lease agreement that residents sign. Contreas asked if the Gloucester WWTP is the same one that will be accepting flows from Essex. She

was concerned that people might see Gloucester as “the only game in town”. Drury responded that it was the same plant, so we will have to look at cumulative impacts to the basin as a whole. DEP has been working with both Essex and Rockport to look at alternatives, and Gloucester was the best alternative.

Clayton stated that he was concerned that EO 181 regarding barrier beaches has not been addressed. He asked why other alternatives were not being considered, because State coastal policy is not to make these sorts of investments in hazard prone areas. Drury replied that she was unaware of the EO, but would come back next month with more information and will consult with DEP NERO on this. Clayton asked if the town felt it was essential to maintain these homes. The town looked at replacing the septic systems, but the lot sizes preclude this. There is not even room for multiple-home systems. Smith stated that EO181 addresses public investment, not alternatives. Clayton asked if the state is contributing to underwriting sewer infrastructure. Haas responded that if we are funding this project, we are complying with the EO.

Smith stated that we will look at EO 181 and make sure our actions are consistent with it. Lewis stated that most of funds for the project will be coming from the people who use the homes. They will be applying for loans from the state. Rich asked if EO 181 factors into the criteria for insignificance. Drury stated that it was not specifically a part of the regulations, but we need to review the EO to see if it relates. Contreas said it would be helpful to find out the legal restrictions on use of this land.

#### **Agenda Item #6: Water Supply and Water Resource Planning Study**

Smith stated that we are just beginning this project, and would like the WRC’s input. The Secretary has just completed buildout analyses for each community across the state. As part of this project, we are trying to determine what could happen to water demand if these buildout levels are met. In addition the Secretary and Governor have an initiative to protect open space in the Commonwealth. Their goal is to protect 200,000 more acres by 2010. This project is to protect water resources for the future. As we acquire open space and protect areas, we need to do so in a way that will help us meet our water and wastewater needs.

This is a statewide strategy to look community by community to determine where the water needs will be and how they can be met. We are trying to think through the project and do a pilot study. Gartland and Murphy have been working with Mass GIS to get this study going.

Gartland said that the purpose was to assess long term water supply and wastewater disposal needs. We are just starting out and trying to figure out how to do this. Buildout analyses looked at zoning and determined what would happen if communities developed to the maximum allowed by their zoning. The estimated statewide water supply *deficit* at buildout was 241 mgd. Contreas stated that zoning doesn’t take demographics into consideration. There is no adjustment for demographic trends. Gartland agreed. Contreas stated that this was a worst case scenario. Smith stated that this raises the question of where water supply comes from. It is also a tool to get communities to start thinking. Gartland stated that we want to get communities thinking about protecting potential water supplies and planning for wastewater disposal. We also want communities to work towards land acquisition to protect potential water supplies.

We will use this to project complete inflow/outflow analyses for subbasins and look at cumulative impacts by watershed. This will tell us what areas are losing water and what areas are gaining.

We are hoping to be able to help identify potential water supply areas and potential recharge areas. A lot of communities have already done this work. We are hoping to tap into this. We will also look at potential regional supplies and potential threats to water supplies.

The proposed methodology:

- Look at existing water use on a community and watershed scale.
- Create a water use data base.
- Look at buildout water supply needs. Buildout is useful so that communities are able to protect potential water supplies now. We are trying to figure out if we should do a short term projection, using either the 2020 population projection or the last years of the DEP WMA 20-year permits.
- Identify potential environmentally sound locations for water supplies and regional water supplies for each community.
- Look at inflow/outflow analyses. In addition to where water supply comes from, we can find out where water goes to.
- Look at well logs. We are trying to computerize these, so they will be available to use in this analysis.

The pilot study area will be Sherburne, Holliston, Medway and Millis.

Webber asked if this project considered agricultural or industrial water use. Gartland responded not yet, but we are considering ways to incorporate these uses. Clayton asked if the biomap is useful as an overlay to use to consider for land for acquisition. Smith replied that it will be helpful when considering “environmentally sound water supplies”. In addition, we want to meet with every town so that we are not working in the abstract. Another reason to do a pilot project is to see if this is useful to communities. Do we have enough water to meet buildout demands? Where is it located? Will it involve Interbasin Transfer or regionalization? What is the role of the state? We need a steering committee to help us with this. That’s going to be our next step.

Rich stated that we need to reach out to state and regional organizations (MWWA and NEWWA) to get the help we need.

Smith said that the final product will be in map form, rather than a technical report, although a lot of technical work will go into it. Webber stated that it is important to incorporate the forestry community in this, especially where we are looking to protect water quality. Two thirds of the state is forested; of that amount, 78% is privately owned. Having a forestry overlay will help to better inform the product. A lot of the prime potential water supply sources will be on or underneath conservation land. We ought to make sure that anything we put out identifies this so that when we go to protect water supplies, we are not in conflict with other uses.

Smith agreed that this was a good suggestion. This will help us identify other lands so that we are not trying to site new water supplies in state parks, etc. When new lands are purchased for protection, we should state that it is for water supply use. Webber stated that most forestry lands

will always be privately held. This project will help show the public values of private lands in real quantifiable terms and can help us shape policies better to help keep these lands in forestry use.

McGinn stated that he was dubious about reliance on zoning for buildout. Most zoning in place is a *de facto* recognition of buildings existing at time the zoning was enacted or reflects pre-revised Title 5 regulations. Based on his experience, there has been little effort to revisit local zoning under the new realities of Title 5. He is concerned that with the lack of the old Title 5 restrictions, many communities will find themselves challenged by their inability to defend the zoning criteria. That's beyond the scope of this project, but he noted that if projections are based on inappropriate criteria (zoning), we wind up with a product that is further removed from reality. He likes the idea of a 2020 or short term target. Demographics will play more of a part in future growth and development than zoning. McGinn brought up another issue: most of our current water supply and wastewater infrastructure has been laid out based on political, regulatory or socio-economic criteria that have directed growth in Massachusetts since the Civil War. Environmental criteria have not been factored into this. He is not sure if this project will be able to overcome these issues. In addition, water supply and wastewater, are only two major infrastructure categories that impact water and hydrological cycle. We also need to look at stormwater. How has it changed where water gets to and how fast it gets there and how does this impact real world stream impacts and ground water elevations across the state? "In" doesn't always equal "out". We also should be looking at storage.

Smith stated that this shows our limitations, but when we look at the data available statewide we will be able to conduct more sophisticated analyses. As we protect land, it should not be bought for just one purpose. Water supply should be part of it.

### **New business**

Smith stated that the Lawn & Landscape information was posted in the Environmental Monitor. The comment period ends Jan 18<sup>th</sup>. Copies of the guidance will go to every elected official in the communities. DEP will get it to water suppliers. It will be available electronically by early next week.

Meeting adjourned

Minutes approved 12/11/03